Purchase Order Receipt Listing

Wednesday, May 10, 2017 3:34:31 PM

All amounts are calculated in domestic currency.

All Vendors PO ID PO36183 Receipt Dates from 5/9/2017 to 5/9/2017 All Line Item Types All Item ID/GL/WOs All Rec. Employees All Currencies Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
VendorID\VendorName	ndor Nam		VU-TWM001 TW	TW Metals							
PO36183	7		M304TR0.375W.065	7.065 f	5/9/2017	5/9/2017	20.0000	1	0.0000	0	80.00
OSD	No.	7	304 RD Tube .375 x .065 W	75 x f	20.0000	PLOU01			0.0000		
	_		m137477								
,*	2	1	-M304TR0.750W.049, f	J. 640.	5/9/2017	5/9/2017	0000009		00000	C	90 00
	Ž	-	304 RD Tube .750 x	J × 05	0000009	PLOU01			0.0000	0	00.00
	~) .	m137477								
	K	1	M4130NT0.500W.08 f	W.08 f	5/9/2017	5/9/2017	40.0830		0.0000	0	80.00
	· A	>	3	9							
	ON I	>	4150 KD tube .500 x .083 W	00 X T	40.0000	PLOU01			0.0000	0	
	1		m]37477								
,	4	13	9 4130NT0.750W.04 f	W 04 f	5/9/2017	5/9/2017	23.9170	1	0.0000	0	80.00
	S _o)	4130 RD Tube .750 x 049W	J 052	20.0000	PLOU01			0.0000	0	
	-		m137477								
,	5	1	M6061T6T0.375W.05 f	5W.05 f	5/9/2017	5/9/2017	204.0000		0.0000	0	80.00
	^o N	7	6061-T6 RD Tube	be f	200.0000	PLOU01			0.0000	0	
	1		m137477		1						
,	9	1	-M6061T6T0.625W.12 f	5W.12 f	5/9/2017	5/9/2017	24.0000	1	0.0000	0	\$0.00
	No	7	6061-T6 RD Tube 0.625 X 125W	be f	20.0000	PLOU01			0.0000	0	
			m137477								
>	7	1	-M6061T6T0.3125W.0 f	3125W.0 f	5/9/2017	5/9/2017	120.0000	\	0.0000	0	\$0.00
	No		ALUM TUBE .3125 x .058w	1125 f	120.0000	PLOU01			0.0000	0	
			m137477								

Book Amt	\$0.00	493.0000 0.0000 0.0000 \$0.00 0.0000
MRB Qty/ MRB Reject Qty	0 0	ntity: //M): ntity: alue:
Inspected Qty/ Rejected Qty N (PO U/M)	0.0000	Total Received Quantity: Total Qty to Inspect (PO U/M): Total Reject Quantity: Total Receipt Value: Total Balance Due Quantity:
Cost Per Unit/ Recv Value		Total C
Recv Qty (PO U/M)	1.0000	
Recv Date/ Recv Emp	5/9/2017 PLOU01	
Required Date Required Qty	5/9/2017	
PO U/M / Stock U/M	TW Metals IENT	
Project ID Reference/ Description/ Cert Std	VU-TWM001 TW M 71401-45 PROCUREMENT QUALITY CLAUSES m137477	
Line P Nbr/ Insp Req	dor Name 9 No	
Purchase Order ID/ Curr Type	Vendor1D/Vendor Name P036183 9 USD No	

Page 2 of 2





Packing Slip

ORDER NO.: 60631135 FROM: CRAN

CUST NUMBER: 1203820 NET WGT:

SOLD TO: DART AEROSPACE LTD 1270 ABERDEEN ST

HAWKESBURY ON

CN K6A 1K7 CANADA

68.424 REO.DATE: 05/09/17 CONFIRMED

SHIP TO:

DART AEROSPACE LTD 1270 ABERDEEN ST

HAWKSBURY ON

ONTARIO CANADA

CN K6A 1K7

SALESPERSON: DONNA SMALLEY

TERMS:

F.O.B.:

NET 30 DAYS SHIPPING POINT

CUST ORD NO.: PO36183

SHIP BY:

VIA:

FREIGHT: PREPAID

RELEASE NO.:

RECEIVING PHONE: WIDTH

LINE ITEM DESCRIPTION

0001 36311 SMLS CD 304/W A269 3/8 OD X .065 WAV

ORD OTY 20.000 FT \ INVOICE OTY

20.000 FT /

SHIPPED OTY

20.000 FT

WT 4.303 PCS

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

MLT: CHINA

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00 PO:49329273 HT:YX1410664 PC: 1 CUSTOMER QTY: 20.000 UOM FT

MFG: CHINA

05/04/17

COMMON CARRIER

LENGTH

SLB/CL:4-34

0002 36860 SMLS CD 304/L A269 3/4 OD X .049 WA

CLN#

CLN#

ORD OTY 60.000 FT INVOICE OTY 60.000 FT U

SHIPPED OTY 60.000 FT WT

PCS

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

MLT: CHINA

DAS MFG; CHINA 9

SLB/CL:11-63

0003 32821 SMLSCD 4130 6736 1/2 X .083 WA

9-89

ORD QTY

NVOICE QTY 20.083 FT SHIPPED OTY 20.083 FT

WT 7.423

17/24 FT

PCS

** 1 TEST REPORTS REQUIRED **

20.000 FT

** 1 CERTS REQUIRED **

MLT: GERMANY MFG: GERMANY

ECCN: 9A991.d Export License: NLR Expiration Date: 0/00/00 PO:49362520 HT:253636 PC: 1 CUSTOMER QTY: 20.083 UOM FT MLT:GERMANY SLB/CL:1632158

1-155

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE THANK YOU FOR THIS ORDER PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL REVIEW.

http://www.twmetals.com/invoice-terms.html





SHIP TO:

SHIP BY:

FREIGHT:

RELEASE NO. /: RECEIVING PHONE:

VIA:

ORDER NO.: 60631135 FROM: CRAN

DART AEROSPACE LTD

1270 ABERDEEN ST

HAWKSBURY ON

ONTARIO CANADA

68.424 REQ.DATE: 05/09/17 CONFIRMED

05/04/17

PREPAID

COMMON CARRIER

LENGTH

17/24) FT

Packing Slip

CN K6A 1K7

WT

PAGE 2

CUST NUMBER: 1203820 NET WGT:

ITEM DESCRIPTION

** 1 TEST REPORTS REQUIRED **

9-89

9

9-89

9A991.d

SOLD TO:

DART AEROSPACE LTD 1270 ABERDEEN ST

HAWKESBURY ON

CANADA

SALESPERSON:

CLN#

ECCN:

CLN#

CLN#

MLT: GERMANY

TERMS: F.O.B.:

CUST ORD NO .:

DONNA SMALLEY NET 30 DAYS

CN K6A 1K7

SHIPPING POINT

PO36183

0004 33047 CDS 4130 6736/ 3/4 X .049 V

> INVOICE OTY ORD OTY 20.000 FT

23.917 FT

** 1 CERTS REQUIRED ** Export License: NLR

PO:49355846 HT: 251554 MFG: GERMANY

PC: 1 CUSTOMER QTY: SLB/CL:1627804

0005 41952 D6061-T6 3/8 OD X .058 WA INVOICE QTY

204.000 FT

SHIPPED OTY

WIDTH

23.917 FT

SHIPPED OTY

204.000 FT

WT

Expiration Date: 0/00/00

12 FT/

23.917 UOM FT

PCS

PCS

PCS

17

1 TEST REPORTS REQUIRED **

200,000 FT

1 CERTS REQUIRED **

ORD OTY

ECCN: EAR99 PO: 49361230 HT: 1180968)

MLT:UNITED STATES MFG:UNITED STATES

Export License: NLR

Expiration Date: 0/00/00 PC: 17 CUSTOMER QTY: 204.000 UOM FT

SLB/CL:438268

0006 42588 D6061-T6 5/8 OD X .125 WA

ORD QTY 24.000 FT INVOICE QTY ' 24.000 FT

SHIPPED OTY

24.000 FT

WT 5.541

12 FT ML

1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR PO:49360917 HT:F002299760001 PC: 2 MLT:UNITED STATES

MFG:UNITED STATES

CUSTOMER QTY:

http://www.twmetals.com/invoice-terms.html

SLB/CL:221973

Expiration Date: 0/00/00 24.000 UOM FT

9.89

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL REVIEW.





SHIP TO:

SHIP BY:

VIA: FREIGHT:

DART AEROSPACE LTD

1270 ABERDEEN ST

ONTARIO CANADA

RECEIVING PHONE:

HAWKSBURY ON

Packing Slip

CN K6A 1K7

CUST NUMBER: 1203820 NET WGT:

SOLD TO:

DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON

CANADA

CN K6A 1K7

DONNA SMALLEY NET 30 DAYS

TERMS: F.O.B.:

SALESPERSON:

SHIPPING POINT

CUST ORD NO.: PO36183

LINE ITEM DESCRIPTION 0007 41723 D6061-T6 5/16 OD X .058 WA

CLN# 120.000 FT

ORD OTY DAS INVOICE QTY 9.8

120.000 FT

SHIPPED QTY

RELEASE NO.:

WIDTH

ORDER NO.: 60631135 FROM: CRAN PAGE 3

68.424 REQ.DATE: 05/09/17 CONFIRMED

120.000 FT

05/04/17

PREPAID

COMMON CARRIER

LENGTH)

12 FT ML

PCS WT 6.552 10

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

MLT:UNITED STATES MEG:UNITED STATES SLB/CL:422327
PO:49367859 HT(1892697) PC: 6 CUSTOMER OTY:
MLT:UNITED STATES MEG:UNITED STATES SLB/CL:450154

72.000 UOM FT

BROKERS KUEHNE AND NAGEL LTD

AREA TYPE OF PKG B REDDICRATE

PKGS GRS WEIGHT WIDTH LENGTH 1.000 107.000

----- PACK INFO -----LENGTH HGHT

7510

1.000 107.000

BY: TB RT 000-

UNLOAD TYPE: NONE SPECIFIED

DATE SHIPPED

DATE FILLED





Packing Slip

CUST NUMBER: 1203820 NET WGT:

DART AEROSPACE LTD

1270 ABERDEEN ST

HAWKESBURY ON

ORDER NO.: 60631158 FROM: CRAN PAGE 1

SOLD TO:

7.392 REO.DATE: 05/09/17 CONFIRMED

DART AEROSPACE LTD 1270 ABERDEEN ST

HAWKSBURY ON

SHIP TO:

ONTARIO CANADA

CN K6A 1K7

SALESPERSON:

DONNA SMALLEY

SHIP BY: VIA:

05/04/17

TERMS: F.O.B.:

CANADA

NET 30 DAYS SHIPPING POINT

CN K6A 1K7

FREIGHT:

COMMON CARRIER PREPAID

CUST ORD NO.: PO36183 ADD

RELEASE NO.:

LINE ITEM DESCRIPTION

0001 32821 SMLSCD 4130/6736 1/2 X .083 WAL

RECEIVING PHONE: WIDTH

LENGTH

17/24 FT

CLN#

ORD OTY 20.000 FT INVOICE QTY 20.000 FT SHIPPED OTY 20.000 FT

7.392

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

MLT:GERMANY 9 MFG:GERMANY

9-89

SLB/CL:1632158

BROKERS KUEHNE AND NAGEL LTD

AREA

TYPE OF PKG DOUBLE CARTON

----- PACK INFO -----PKGS GRS WEIGHT 1.000 27.000

WIDTH

LENGTH HGHT

248,0000

1.000 27.000

BY: TW RT 000-

UNLOAD TYPE: NONE SPECIFIED

http://www.twmetals.com/invoice-terms.html

DATE SHIPPED

DATE FILLED

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL REVIEW.





Packing Slip

ORDER NO.: 60631135

FROM: CRAN

PAGE 4

CUST NUMBER: 1203820 NET WGT:

SOLD TO:

DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON

CANADA CN K6A 1K7

DONNA SMALLEY

SHIPPING POINT

COMMON CARRIER

NET 30 DAYS

PO36183

PREPAID

SALESPERSON:

TERMS: F.O.B.:

CUST ORD NO.:

VIA: FREIGHT:

RELEASE NO.:

RECEIVING PHONE:

68.424 REQ.DATE: 05/09/17 CONFIRMED

SHIP TO:

DART AEROSPACE LTD 1270 ABERDEEN ST HAWKSBURY ON

ONTARIO CANADA

CN K6A 1K7

SHIP BY:

05/04/17

27 ENGLEHARD DRIVE

MONROE TWP

NJ 08831

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Authorized Test Report Clerk Con UC mulu

Date: 5/04/17

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

Steel/Tube

Blatt:

Page:

No. du certificat: Inspection No.:

Prüf-Nr.:

41 991327/001/P

Dokument-Nr.: No. du document; Document No.:

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

CERTIFICAT DE RECEPTION EN 10204-3,1 INSPECTION CERTIFICATE EN 10204-3.1

EN 10204:2005-01

Fel.: +49.5254.81-0 Fax: +49.5254,13666

Benteler Steel/Tube GmbH

33043 Paderborn

Deutschland

Postfach 13 40

Manufacturer:

46004784TW M49362520

Producteur: Hersteller:

1632158

No. de commande du client:

Kunden-Bestell-Nr.: Purchase Order No.:

Benteler Steel/Tube GmbH. - Postfach 1340 - 33043 Poderbom - Deutschland

The Aboretum, Suite 204 760 Constitution Drive EXTON PA 19341 USA

TW Metals

4185829

No. de commande Benteler:

Versandanzeigen-Nr.:

Dispatch Note No.:

Benteler Auftrags-Nr.: Benteler Order No.:

IDIN EN ISO 9001, ISO/TS-16349 CERTIFIED BY TUEV NORD CERT (PED 2014/68/EU CERTIFIED BY TUEV NORD SYSTEMS) Warmrohrwerk/Zieherei

Manufacturer's brand: Marque du producteur: Herstellerzeichen:

Stamp of the inspection representative: Stempel des Abnahmebeauftragten:

Stahlerschmelzungsverfahren: Poinçon du contrôleur:

ELECTRIC FURNACE Procédé d'élaboration de l'acier: FOUR ELECTRIQUE ELEKTROSTAHL Steelmaking process:

AMS-T-6736B-08 Type 1, ASTM-A 519-2006, MIL-T-6736B Type 1, AMS6360 Rev. M, AMS 2301K TUBES D' ACIER SANS SOUDURE Product: Produit:

NAHTLOSE STAHLROHRE SEAMLESS STEEL TUBES

Produkt:

No. d'avis d'expédition:

Maße - Toleranzen:

Conditions de livraison:

Terms of delivery:

Lieferbedingungen:

straightness acc. to customer request, AMS 2253E-83, Aircraft Type, Seamless, Cold Finished

Dimensions-tolarances: Dimensions-tolérances: **GRADE 4130**

Stahlsorte:

Nuance d'acier: Steel grade:

Lieferzustand:

Condition N

Delivery condition: État de livraison: FSD: BENTELER AMS6360M-AMS-T-6736 B 1-MIL-T-6736 B 1-AMS 2301K 4130 Condition N HEAT-NO. Produktkennzeichnung: Product marking:

CD AQ S DIMENSIONS WA GERMANY

Marquage du produit:

AZ = Atzintenbaschiftung, Etching ink marting, Gravore & FK = Farbkennzeichnung, color marking, marquage par couleur . FS = Farbschabtonierung, pairt stencilling, marquage par poincennage . FSD = Farbschabtennzeichnung, Loser marking, Marquage isser . PKE = Eilkertenkernzeichnung, tag marking, marquage sur étiquarte . PS = Prâgestempel, die stamp, marquage par poincennage . TS = Tintenstrahlemnzeichnung, Ink jet spray marking, marquage isser . PKE = Eilkertenkernzeichnung, Ink jet spray marking, marquage sur étiquarte . PS = Prâgestempel, die stamp, marquage par poincennage . TS = Tintenstrahlemnzeichnung, Ink jet spray marking, marquage sur étiquarte . PS = Prâgestempel, die stamp, marquage par poincennage . TS = Tintenstrahlemnzeichnung, Ink jet spray marking, fing proprietation and the stamp and the





BENTELER 🛡

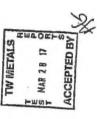
Steel/Tube

Benteler Steel/Tube GmbH Postfach 13 40 33043 Paderborn Deutschland Tel.; +49,5254,81-0 Fax: +49,5254,13666

NSPEC SERTIFIE	ABNAHMEPRÜFZEUGNIS EN 10204-3. INSPECTION CERTIFICATE EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1	UGNIS EI EN 10204-3.1 EN 10204-3.	N 10204-	3.1	Dokument-Nr.: Bocument No.: No. du document:	Nr.: .: ent:	41-991327/001/P	7/001/P	Prūf-Nr.: Inspectio No. du c	Prūf-Nr.: Inspection No.: No. du certificat:		Blatt: 2 / Page: Page:	4
Pos.	Stück Maße Number Dimensions Nombre Dimensions	ions		feet	•	Gesamtlänge "Gewicht Length total Weight Longueur totale Poids feet lbs	e - Gewicht Weight Poids Ibs		Schmelzen-Nr. Heat No. No. de coulée	Průfdruck Test pressure Pression d'épreuve	Rohr-NrGruppe Tube number group Série de no. des tubes	Vielfachlängen Multiple lengths Longueurs multiples	ängen igths multipli
80008	125 0.500" 20 FT	0" 0.D. *	0.083#	II.M		2500,56	926	253636	536				
hme	39 Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]	/ Heat analys	is [%] / Analys	se sur coulé	e [%]								
Posta Posta	Schmelzen-Nr. Heat No.	ပ	IS .	MM	а	s.	CR	MO	Z	ನಿ			
8000	1	0,320	. 0,270	0,57	0,008	100,0	0,88	0,17	60,0	0,14			
odul	Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]	roduct analysi	s [%] / Analys	e sur produí	it [%]								
Pos.	Schmelzen-Nr. Heat No. No. de coulée	ပ	<u> </u>	NN	a.	s	C.	O	Z	DO .			
0008 Prüfer	0008 253636 0,31.0 0,280 Prüfergebnisse / Test results / Résultats des essais	0,31.0	O, 280 Its des essais	0,55	0,012	0,002	0,88	0,17	60'0	0,15			
lie R he tu	Die Rohre wurden zerstörungsfrei geprüft: The tubes are non destructive tested: Les tubes ont passé un essai non destructif:	störungsfre ive tested: ai non destruc	si geprüft:		ET-test: acc ET-test: ET Notch dept width (max	: acc, to ASTM-4 :: ET with rotating depth: 0,30 mm; max. 50 mm)	450; ET - g pancake c notch widtl	Test metloils; acco	hod: acc. to rding to EN tch depth; n	ET-test: acc, to ASTM-A 450; ET - Test method: acc. to ASTM-E 309; for imperfections; ET-test: ET with rotating pancake coils; according to EN 10246-3; imperfections; Notch depth: 0,30 mm; notch width < = notch depth; notch langth min. 2 x transducer width (max. 50 mm)	r imperfections; ections; 2 x transducer	PASSED	
isual	Augensichtkontrolle: Visual inspection: Examen visuel:		PASSED	SED	Materialverwechslun Material conformity test: Vérification de la nuance:	Material verwechslungsprüfung: Material conformity test: Vérification de la nuance:	orŭfung:	PASSED		Maßkontrolle: Dimensions examination: Vérification des dimensions:	on: isions:	PASSED	
1													-

Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des essais πécaniques

Die Probennahme erfolgte an Vielfachlängen. The sampling was carried out on multiple lengths. L'echantillonage etait realise aux longueurs multiples.



Benteler Steel/Tube GmbH

Tel.: +49.5254.81-0 Fax: +49.5254.13666 33043 Paderborn Deutschland

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4 31 Blatt: Page: Page: No. du certificat: Inspection No.: Prüf-Nr.: 41-991327/001/P Dokument-Nr.: Document No.: No. du document: ABNAHMEPRÜFZEUGNIS EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1 INSPECTION CERTIFICATE EN 10204-3.1

Zugversu	ch längs bei RT,	Vollprobe / Tensile te	sst longitudinal at l	RT, Full set	Zugversuch längs bei RT, Vollprobe / Tensile test longitudinal at RT. Full section test specimen / Essai de traction longitudinale à TA. Eprouvette a section complete	on longitudinale à TA, Epro	givette a section com	plete "	
Pos.	Proben-Nr.	Schmelzen-Nr.	Probenabmessung		Streckgrenze	Zugfestigkeit	Dehnung		
Item .	Specimen No.	Heat No.	Specimen dimensions		Yield strength	Tensile strength	Elongation		
Poste	No, de l'éprouv.	No. de coutée	Dimensions de l	l'éprouv.	Dimensions de l'éprouv. Limite élastique	Résistance à la traction Allongement	Allongement		
Anforderungen	ungen.				Rp 0,2 %	Rm	A2"	1. Formel	
Requirements	nts		mm		KSI	KSI	%	1. Formula	
Exigences					MIN 75	MIN 95	MIN 12.00	1. Formule	
0000	000001	253636	12,74 X	2,13	103	125	19,00		
0008	000002	253636	12,74 X	2,13	101	124	19,00		
0000	000000	253636	12,74 X	2,13	101	125	18,00		

Randentkohlung / Surface decarburization / Décarburation superficielle

Pos. / Item / Poste: 0008

decarburization outside and inside max. 0.018 in, partial decarburization outside and inside max. 0,457 mm, without total acc to AMS-6360, partial decarburization outside max. 0.014 in, partial decarburization inside max. 0.014 in, partial decarburization; partial decarb. out. max.: 0,356 mm; partial decarb. ins. max.: 0,356 mm

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0008

52,225-1 CANNOT COMPLY, DFARS BAA: 252,225-7001 CAN COMPLY, FAR TAA: 52,225-5 CAN COMPLY, No weld repair has been carried out, Certificate remarks: The steel grade corresponds to MIL-T-6736B, AMS 6360M, material free from mercury contamination, FAR BAA: Country of origin of the material and heat: Germany, Aircraft quality steel acc. to AMS 2301K; see appendix page 1 of 1.

Pos. / Item / Poste: 0008

Macroscopic examination: acc. to ASTM-E 381

Pos. / Item / Poste: 0008

Magnetic particle Inspec.: acc. to AMS 2301K/ASTM-E 1444, on prematerial

Grain size: acc. to ASTM-E 112; Grain size and finer: 5; Grain size: Longitudinal structure micrography, On prematerial Pos. / Item / Poste: 0008

Verkäufer(in) / Salas Personnel / Personne chargée: Mr Schwarz, Tel.: 05254 81-204311, Fax: 204391





Bentteler Steel/Tube GmbH Postfach 13 40 33043 Paderborn

Tel.: +49.5254.81-0 Fax: +49.5254.13666 Deutschland

ABNAHMEPRÜFZEUGNIS EN 10204-3.1 INSPECTION CERTIFICATE EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1

41 º91327/001/P

Dokument-Nr.: No. du document: Document No.:

Inspection No.: No. du certificat: Prist-Nr.:

BENTELER 🛡

Blatt: Steel/Tube

41

Page: Page:

> ACCEPTED BY T MAR 28 17 TW METALS

> > Paderborn Schloß Neuhaus, 07.03.2017, TEL.: 05254.81-201768 FAX: 05254.81-201752

Abnahmebeauftragter Inspection representative

i. A. THOMAS GOLLAN / Tat Contröleur

Es wird bestätigt, daß die gelieferten Erzeugnisse den tachn. Lieferbedingungen des Auftrages entsprachen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtsgültig. We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature. Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.



Benteler Steel/Tube GmbH

Residenzstraße 1 33104 Paderborn Germany Tel.:49.5254.81-0 Fax: 49.5254.13666

Inspection Certificate EN 10204.3.1 / appendix Abnahmeprüfzeugnis EN 10204-3.1 / Anhang

Certificat de réception EN 10204-3.1 / appendice

Dokument-Nr.

No. de document: Document No.:

41-991327/001/P

BENTELER 🛡

Steel/Tube

Page: Page:

VON

Blatt:

4

1 of 1

de

Halbzeuguntersuchung: Stahlsorte 4130 / Semi finished product examination: grade 4130 / Produit semi-fini: nuance 4130

test icture }	max. C 2	C 2	
Makroätzung Macrostructure test Essai de macrostructure (ASTM-E 381)	max. R 1	R 1	
Ma	max. S 2	82	
Magnetic particle inspection Essai à la poudre magnétique (AMS 2301 KASTM- 1444)	S max. 0,25	0,015	TW METALS RESERVED BY ACCEPTED BY
Magnetpul Magnetic parti Essai à la pour (AMS 2301 K	F max. 0,34	0,020	
it (min. Anforderungen) lifty (min. requirements) abilité (exigence min.) (ASTIM-A 256)	J(8/16") min. 28 HRC	34	
Härtbarkeit (min. Anforderungen) Hardenability (min. requirements) Trempabilité (exigence min.) (ASTM-A 255)	J(5/16") min. 35 HRC	44	Inside 0,050 mm
Komgröße Grain size Grosseur de grain (ASTM-E 112)	min. 5	. თ	Outside 0,000 mm
Position Item Poste		800	
Schmelzen-Nr. Heat No. Coulée No.		253636	Decarburization Depth

Der Stahl ist frei von Quecksilberverunreinigungen. / The steel is free of mercury contamination. / L'acier est libre des contaminations de mercure.

Paderborn Schloß Neuhaus, 07.03.2017 Tel.: (0)5254.81-201760 Fax: (0)5254.81-201752

Thomas Gollan

Inspection representative Abnahmebeauftragter

Contróleur





Packing Slip

ORDER NO.: 60631158 FROM: CFAN

CUST NUMBER: 1203820

NET WGT:

SOLD TO: DART AEROSPACE LTD

1270 ABERDEEN ST HAWKESBURY ON

CANADA

CN K6A 1K7

7.392 REQ.DATE: 05/09/17 CONFIRMED

SHIP TO:

DART AEROSPACE LTD 1270 ABERDEEN ST

HAWKSBURY ON

ONTARIO CANADA

CN K6A 1K7

SALESPERSON:

TERMS:

F.O.B.:

CUST ORD NO .:

FREIGHT:

RELEASE NO.: RECEIVING PHONE: DONNA SMALLEY

NET 30 DAYS SHIPPING POINT PO36183 ADD

COMMON CARRIER

PREPAID

05/04/17 SHIP BY: 27 ENGLEHARD DRIVE

MONROE TWP

NJ 08831

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing

Date: 5/04/17 material" Authorized Test Report Clerk CM

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

PUFATM

1005 9 489

MILL TEST REPORT

Purchaser.: TW META	ALS-Crumbur	y			Certificate N	lo.: 15-5-23				
Contract No.: TWM P	.O.No.: M493	329273			Date of Issue					
Commodity: Stainless	Steel Scamle	ss Tubes	Specifica			4/ASME SA2				W
Process: Cold Drawn			1	1	Delivery Co	ndition: OD P	olished	d to 240 C	irit	
0. 10. 1	1747	Number	Lot		Dimensio	ns			uantity	
Steel Grade	Heat	Anniber	Number				Pie	eces		eet
TP304/TP304L	YX14	110-664	4-34	(3/8" × 0.065	' x 20'	2	50	5,0	000
		Ch	emical Co	mpositio	n by Weight	(%)				
Element	C	Mn	P	S	Si	Cr	ì	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.03	0 ≤1.00	18.00-20.00	8.00-	-12.00	-	-
Ladle Analysis	0.010	0.63	0.028	0.001	0.46	18.33	8.	.05	-	
Product Analysis	0.019	0.79	0.033	0.001	0.51	18.52	3.	.50	-	
			Mech	anical P	roperties					
	Floor	ation (% in 2	11)	Tens	sile Strength	(PSI)			rength (P	SI)
Test Item	Flong	ation (70 th 2	,		Rm				30,000	
Requirements		≥35			≥75,000	00			00/37,000	
Test Results		63/64			92,000/93,0		Wlat	tening	Flange	P.M.I
Test Item		on of Area	Hard	ness	Cold Bend Test	Flaring Test		Test	Test	Test
		(%)	HRB	≤80	-	30%	e=	0.09	-	-
Requirements	-		77/	79		Passed	Pa	assed	-	OK
Test Results Test Item	Eddy C	urrent Test	Air Und Pressur	erwater	Ultrasonic Test	Intergranu Corrosion		Macro	scopic In	spection
Requirements	ASTI	M E 426				ASTM A26	2 E 1	End Cut	Appe	arance
Test Results		assed			-	OK		OK	(OK

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE FAR BAA / DFARS BAA / FAR TAA



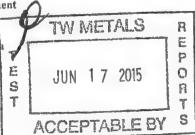
By:

James Shi / Manager

We hereby certify that this report is true and correct.

Quality Control Department

Shanghai Pufa Stainless Steel Pipe Factory No. 59, Shuangye Road, Wanggang, New Pudong District, Shanghai, China



PUFATM

MILL TEST REPORT

		2.									
Purchaser.: TW META	LS-Cranbur	y			Се	rtificate N	io.: 16-1-13				
Contract No.: TWM P.	O.No.: M493	342471			Da	te of Issue	2016.1.5				
Commodity: Stainless	Steel Seamle	ss Tubes	Specifi	cations:	AST	M A213-1	Sc/ASME SA	213-	S/ASTM	A269-15a	EAW
Process: Cold Drawn					De	livery Co	ndition: OD F	olish	ed to 240 (3rit	
		- 1	Lot			Dimensio	me		Q	uantity	
Steel Grade	Heat	Yumber	Numb	er		Dintensio	115	. [ieces	F	eet
TP304/TP304L	YX15	01-783	11-63	3 (3/4	i" x 0.049'	' x 20')		250	5,	000
		Ch	emical (Composit	ion l	by Weight	(%)				
Element	С	Mn	P	S		Si	Cr		Ni	Mo	Co
Requirements	≤0.035	€2.00	≤0.0	45 ≤0.0	030	≤1.00	18.00-20.00	8.0	0-12.00	-	-
Ladle Analysis	0.012	0.68	0.031	0.00)1	0.37	18.35		8.05	-	•
Product Analysis	0.019	0.70	0.033	0.00)2	0.39	18.37	•	8.31	-	
			Me	chanical	Pro	perties					
Test Item	Elong	ation (% in 2	")	Te	nsil	e Strength Rm	(PSI)		R	trength (I p / 0.2%	'SI)
Requirements		≥35				≥75,000				30,000	
Test Results		65/66			_	,000/90,0		171		00/35,000 Flange	P.M.I
Test Item		on of Area (%)		rdness	C	old Bend Test	Flaring Test	Flattening Test		Test	Test
Requirements		•	HR	B≤80		-	22%		=0.09	-	-
Test Results		-	7	5/77		•	Passed		Passed	- OK	
Test Item	Eddy C	errent Test		derwate ure Test	٠	ltrasonic Test	Intergrant Corrosion	Test		scopic In	
Requirements	ASTI	M E 426					ASTM A20	52 E	End Cut		earance
Test Results	Pa	ssed		-		-	OK		OK	D 2105 DI	OK

ISO 9001:2008 Certified by Intertek 110703068

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) Ali tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE FAR BAA / DFARS BAA / FAR TAA

Jones GE:



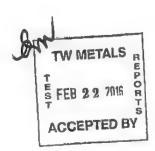
By:

James Shi / Manager Quality Control Department

We hereby certify that this report is true and correct.

Shanghai Pufa Stainless Steel Pipe Factory

No. 59, Shuangye Road, Wanggang, New Pudong District, Shanghai, China



Tel.: +49.5254.81-0 Fax: +49.5254.13666 Benteler Steel/Tube GmbH 33043 Paderborn Postfach 13 40 Deutschland

BENTELER V

Steel/Tube

4

IDIN EN ISO 9001, ISO/TS-18949 CERTIFIED BY TUEV NORD CERT IPED 2014/68/EU CERTIFIED BY TUEV NORD SYSTEMS Blatt: Page: Pege: ELECTRIC FURNACE Steelmaking process:
Procédé d'élaboration de l'acier: FOUR ELECTRIQUE ELEKTROSTAHL X X Warmrohrwerk/Zieherei Stamp of the inspection representative: Stempel des Abnahmebeauftragten: Stahlerschmelzungsverfahren: Manufacturer's brand: Marque du producteur: Poinçon du contrôleur: Herstellerzeichen: No. du certificat: Inspection No.: Manufacturer: Producteur: Hersteller: Prüf-Nr.: 46004784TW M49362520 41-991327/001/P TUBES D' ACIER SANS SOUDURE 1632158 4185829 NAHTLOSE STAHLROHRE SEAMLESS STEEL TUBES No. de commande du client: No. de commande Benteler: No. d'avis d'expédition: Benteler Auftrags-Nr.: Versandanzeigen-Nr.: Kunden-Bestell-Nr.: Purchase Order No.: Benteler Order No.: Dokument-Nr.: Document No.: Dispatch Note No.: No. du document: Product: Produit: Produkt: Benteler Steel/Tube GmbH - Postlach 1340 - 33043 Paderborn - Deutschland ABNAHMEPRÜFZEUGNIS EN 10204-3.1 INSPECTION CERTIFICATE EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1 The Aboretum, Suite 204 760 Constitution Drive EXTON PA 19341 USA EN 10204:2005-01 TW Metals

AMS-T-6736B-08 Type 1, ASTM-A 519-2006, MIL-T-6736B Type 1, AMS6360 Rev. M, AMS 2301K Lieferbedingungen: Terms of delivery:

straightness acc. to customer request, AMS 2253E-83, Aircraft Type, Seamless, Cold Finished Maße - Toleranzen: Dimensions-tolerances:

Conditions de livraison:

GRADE 4130

Nuance d'acler: Stahlsorte: Steel grade:

Dimensions-tolérances:

Condition N Delivery condition: Lieferzustand:

État de livraison:

Produktkennzeichnung:

FSD: BENTELER AMS6360M-AMS-T-6736 B 1-MIL-T-6736 B 1-AMS 2301K 4130 Condition N HEAT-NO. CD AQ S DIMENSIONS WA GERMANY Marquage du produit: Product marking:

AEZ = Atzimenbaschritung, Etching ich marking, Grevure & l'encre . FK = Farbtenvelchnung, color marking, marquage par couleur . FS = Farbschablonferung, paint stencilling, marquage par peinture . FSD = Farbschablonder, Color jet printer, imprimante à jet d'encre de d'encre de d'encre .



BENTELER 🛡

Steel/Tube

Benteler Steel/Tube GmbH Postfach 13 40 33043 Paderborn Deutschland Tel.: +49,5254,81-0 Fax: +49,5254,13666

CERTIFICAT	INSPECTION CERTIFICATE EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1	10204-3.	_		Document No.: No. du document:	nent:			No. d	Inspection No.: No. du certificat:	•	Page:
Pos. Sti	Stück Maße Number Dimensions Nombre Dimensions	2 S		199	•	Gesamtlänge Gewicht Length total Weight Longueur totale Poids feet lbs	ge _ Gewich Weight le Poids lbs		Schmelzen-Nr. Heat No. No. de coulée	Prüfdruck Tost pressura Pression d'épreuva	Rohr-NrGruppe Tube number group Série de no. des tubes	Vielfachlängen Multiple lengths Longueurs multiples
0008 125 9	0.500* 20 FT	0.D. *	0.083"	TM		2500,56	926	25	253636			
Schmelzer	Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]	deat analys	is [%] / Analys	se sur coulé	e [%]							
Pos. So Item He Poste No	Schmelzen-Nr. Heat No. No. de coulée	U	S	MM	e.	s.	CR	MO	ī	no		
0008 25	253636	0,320	. 0,270	0,57	0,008	100'0	0,88	0,17	60'0	0,14		
Produktan	Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]	luct analysi	s [%] / Analyse	e sur produ	h [%]							
Pos. Sc Item He Poste No	Schmelzen-Nr. Heat No. No. de coulée	ပ	<u> </u>	NIN	<u>a</u>	w	CR	MO	N	CO		
0008 25	253636	0,310	0,280	0,55	0,012	0,002	0,88	0,17	0,09	0,15		
Prüfergeb	Prüfergebnisse / Test results / Résultats des essais	ts / Résulta	its des essais									
Die Rohr The tubes i Les tubes o	Die Rohre wurden zerstörungsfrei geprüft: The tubes are non destructive tested: Les tubes ont passé un essai non destructif:	Örungsfre s tested: non destrue	el geprüft:		ET-test: ac ET-test: E1 Notch dep width (max	ET-test: acc. to ASTMI- ET-test: ET with rotatin Notch depth: 0,30 mm; width (max. 50 mm)	A 450; ET g pancake notch wid	coils; ac	nethod: acc. t scording to EN notch depth;	ET-test: acc. to ASTM-A 450; ET - Test method: acc. to ASTM-E 309; for imperfections; ET-test: ET with rotating pancake coils; according to EN 10246-3; imperfections; Notch depth: 0,30 mm; notch width < = notch depth; notch length min. 2 x transducer width (max. 50 mm)	or imperfections; fections; 2 x transducer	PASSED
Augensichtkon Visual inspection: Examen visuel:	Augensichtkontrolle: Visual inspection: Examen visual:		PASSED	SED	Materialve Material conf	Material verwechslungsprüfung: Matarial conformity test: Vérification de la nuance:	prūfung:	g.	PASSED	Maßkontrolle: Dimensions examination: Vérification des dimensions:	vion: rosions:	PASSED

Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des assals mécaniques

Die Probennahme erfolgte an Vielfachlängen. The sampling was carried out on multiple lengths. L'echantillonage etait realisé aux longueurs multiples.





Benteler Stael/Tube GmbH Postfach 1340

33043 Paderborn Deutschland Tel.: +49.5254.81-0 Fax: +49.5254.13666

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Steel/Tube

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Inspection No.: No. du certificat: Prüf-Nr.: 41-991327/001/P Dokument-Nr.: No. du document: Document No.: ABNAHMEPRÜFZEUGNIS EN 10204-3.1 INSPECTION CERTIFICATE EN 10204-3.1

Zugversuch längs bei RT, Vollprobe / Tensile test longitudinal at RT, Full section test specimen / Essai de traction longitudinale à TA, Eprogvette a section complete CERTIFICAT DE RECEPTION EN 10204-3.1

Schmelzen-Nr. Probenabmessung Streckgrenze Streckgrenze Zugfestigkeit Heat No. Specimen dimensions Yield strength Tonsile strength No. de coulée Dimensions de l'éprouv. Limité élastique Résistance à la traction Rh KSI KSI mm KSI KSI 253636 12,74 X 2,13 103 125 253636 12,74 X 2,13 101 124 253636 12,74 X 2,13 101 125									
Specimen No. Heat No. Specimen dimensions Yield strength Tonsile strength Elongation No. de l'éprouv. No. de coulée Dimensions de l'éprouv. Limite élastique Rm A2" rderungen mrin KSI KSI KSI % sements mrin KSI MIN 75 MIN 75 MIN 12.00 s 000001 253636 12,74 X 2,13 101 101 126 19,00 s 000003 253636 12,74 X 2,13 101 101 125 18,00 s 000003 253636 12,74 X 2,13 101 125 18,00	Pos.	Proben-Nr.	Schmelzen-Nr.	Probenabmessur	g Streckgrenze	Zugfestigkeit	Dehnung		
No. de l'éprouv. No. de coulée Dimensions de l'éprouv. Limite élastique Résistance à la traction Allongement rderungen mrin RSI AQ** ements KSI KSI % i cosono 12,74 X 2,13 103 125 19,00 i cosono 2554536 12,74 X 2,13 101 124 19,00 i cosono 2554536 12,74 X 2,13 101 125 18,00	ftem .	Specimen No.		Specimen dimension	s Yield strength	Tensile strength	Elongation		
ungen Rm Rp 0,2 % Rm A2" mts KSI KSI % nm KSI KSI % nm 75 MIN 75 MIN 12.00 000001 253636 12,74 X 2,13 101 124 19,00 000003 253636 12,74 X 2,13 101 125 18,00	Poste	No. de l'éprouv.		Dimensions de l'épro	uv. Limite élastique	Résistance à la tract	ion Allongement		
nds rmin KSI KSI % 000001 253636 12,74 X 2,13 103 125 19,00 000002 253636 12,74 X 2,13 101 124 19,00 000003 253636 12,74 X 2,13 101 125 18,00	Anforderu	เกติดา			Rp 0,2 %	Rm	A2"	1. Formel	
000001 253636 12,74 X 2,13 103 125 19,00 000002 253636 12,74 X 2,13 101 124 19,00 000003 253636 12,74 X 2,13 101 125 18,00	Requirement			mm	KSI	KSI	*	1. Formula	
000001 253636 12,74 X 2,13 103 125 000002 253636 12,74 X 2,13 101 125 000003 253636 12,74 X 2,13 101 125	Exigences				MIN 75	MIN 95	MIN 12.00	1. Formule	
000002 253636 12,74 X 2,13 101 124 125	0008	000001	253636			125	19,00		
0000003 253636 12,74 X 2,13 101 125	8000	000002	253636			124	19,00		
	8000	000003	253636			125	18,00		

Randentkohlung / Surface decarburization / Décarburation superficielle

Pos. / Item / Posta: 9008

decarburizztion-outside and inside max. 0.018 in, partial decarburization outside and inside max. 0,457 mm, without total acc, to AMS-6360, partial decarburization outside max. 0.014 in, partial decarburization inside max. 0.014 in, partial decarburization; partial decarb. out. max.: 0,356 mm; partial decarb. ins. max.: 0,356 mm

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0008

52.225-1 CANNOT COMPLY, DFARS BAA: 252.225-7001 CAN COMPLY, FAR TAA: 52.225-5 CAN COMPLY, No weld repair has been carried out, Certificate remarks; The steel grade corresponds to MIL-T-6736B, AMS 6360M, material free from mercury contamination, FAR BAA: Country of origin of the material and heat: Germany, Aircraft quality steel acc. to AMS 2301K; see appendix page 1 of 1.

Pos. / Item / Posta: 0008

Macroscopic examination: acc. to ASTM-E 381

Pos. / Item / Poste: 0008

Magnetic particle inspec .: acc. to AMS 2301K/ASTM-E 1444, on prematerial

Pos. / Item / Poste: 0008

Grain size: acc. to ASTM-E 112; Grain size and finer: 5; Grain size: Longitudinal structure micrography, On prematerial

Verkäufer(in) / Salas Personnel / Personne chargée: Mr Schwarz, Tel.: 05254 81-204311, Fax: 204391



St.



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Steel/Tube

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Dokument-Nr.: No. du document: Document No.: ABNAHMEPRÜFZEUGNIS EN 10204-3.1 INSPECTION CERTIFICATE EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1 Deutschland Tel.: +49.5254.81-0 Fax: +49.5254.13665

Benteler Steel/Tube GmbH

33043 Paderborn Postfach 13 40

41-991327/001/P

Prūf-Nr.:

No. du certificat: Inspection No.:

ACCEPTED BY TW METALS E KAR 28 17

Paderborn Schloß Neuhaus, 07.03.2017, TEL.: 05254.81-201768 FAX: 05254.81-201752

Abnahmebeauftragter Inspection representative

i. A. THOMAS GOLLAN / Tat

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprachen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschriff rechtsgültig. We cartify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature. Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi per treitement électronique de l'information et est valide sans signature.

Germany Tel.:49.5254.81-0 Fax: 49.5254.13666 Benteler Steel/Tube GmbH Residenzstraße 1 33104 Paderborn

Document No.: Dokument-Nr.

Inspection Certificate EN 10204.3.1 / appendix Abnahmeprüfzeugnis EN 10204-3.1 / Anhang

Certificat de réception EN 10204-3.1 / appendice

No. de document:

41-991327/001/P

1 of 1 VON de Blatt:

BENTELER 🛡

Steel/Tube

Page: Page:

Halbzeuguntersuchung: Stahlsorte 4130 / Semi finished product examination: grade 4130 / Produit semi-fini: nuance 4130

test ucture	max. C 2	C 2	
Macrostructure test Essai de macrostructure (ASTM-E 381)	max. R 1	R1	
Essa	max. S 2	82	
Magnetic particle inspection Essai à la poudre magnétique (AMS 2301 K/ASTM- 1444)	S max. 0,25	0,015	TW METALS T
Magnetic par Magnetic par Essai à la pou (AMS 2301 l	F max. 0,34	0,020	
Härbarkeit (min. Anforderungen) Hardenability (min. requirements) Trempabilité (exigence min.) (ASTM-A 255)	J(8/16") min. 28 HRC	34	
Härtbarkeit (min Hardenability (m Trempabilité (J(5/16") min. 35 HRC	44	Inside 0,050 mm
Komgröße Grain size Grosseur de grain (ASTM-E 112)	min. 5	. 6	Outside 0,000 mm Inside 0,050 mm
Position Item Poste		800	
Schmetzen-Nr. Heat No. Coulée No.		253636	Decarburization Depth

Der Stahl ist frei von Quecksilberverunreinigungen. / The steel is free of mercury contamination. / L'acier est libre des contaminations de mercure.

Tel.: (0)5254.81-201760 Fax: (0)5254.81-201752 Paderborn Schloß Neuhaus, 07.03.2017

Inspection representative Abnahmebeauftragter Contróleur

Thomas Gollan



Bentelar Steel/Tube GmbH

33043 Paderborn

Deutschland

Postfach 13 40

Steel/Tube

4

1

JOIN EN ISO 9001, ISO/TS-16949 CENTIFIED BY TUEV NORD CENTI (PED 2014/68/EU CERTIFIED BY TUEV NORD SYSTEMS) Blatt: Page: Steelmaking process: ELECTRIC FURNACE Procedé d'élaboration de l'acier: FOUR ELECTRIQUE ELEKTROSTAHL Š Warmrohrwerk/Zieherei Stamp of the inspection representative: Stempel des Abnahmebeauftragten: Stahlerschmelzungsverfahren: Marque du producteur: Poinçon du contrôleur: Manufacturer's brand: Herstellerzeichen: No. du certificat: Inspection No.: Manufacturer: Producteur: Hersteller: Prüf-Nr.: 46004514 TW M49355846 41-969259/001/P NAHTLOSE STAHLROHRE SEAMLESS STEEL TUBES TUBES D' ACIER SANS SOUDURE 1627804 4174963 No. de commande du client: No. de commande Benteler: No. d'avis d'expédition: Benteler Auftrags-Nr.: Versandanzeigen-Nr.: Purchase Order No.: Benteler Order No.: Kunden-Bestell-Nr.: Dispatch Note No.: Dokument-Nr.: No. du document: Document No.: Produkt: Product ABNAHMEPRÜFZEUGNIS EN 10204-3.1 Benteler Steel/Tube GmbH - Postfach 1340 - 33043 Paderborn - Deutschland Tel.: +49.5254.81-0 Fax: +49.5254.13666 INSPECTION CERTIFICATE EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1 EN 10204:2005-01 The Aboretum, Suite 204 760 Constitution Drive EXTON PA 19341 USA **rw** Metals

AMS-T-6736B Type 1, ASTM-A 519-2006, MIL-T-6736B Type 1, AMS6360 Rev. M, AMS 2301K Lieferbedingungen: Terms of delivery:

Prodult:

TW METALS DEC 1 6 2016 LL (O) AMS 2253E-83, Aircraft Type, Seamless, Cold Finished **GRADE 4130** Maße - Toleranzen: Dimensions-tolerances: Conditions de livraison: Dimensions-tolérances:

Nuance d'acier: Stahlsorte: Steel grade:

MOOE

ACCEPTED BY

Condition N Delivery condition: Lieferzustand:

FSD; BENTELER AMS6360M-AMS-T-6736 B 1-MIL-T-6736 B 1-AMS 2301K 4130 Condition N HEAT-NO. CD AQ S DIMENSIONS WA GERMANY Produktkennzeichnung: Product marking:

Marquage du produit:

État de livraison:

AEZ = Azzimanbaschiftung, Eiching ink marking, Gravure à l'encre . FK = Farbkerarzeichnung, color marking, marquage per couleur . FS = Farbschablonierung, paint stancilling, marquage per couleur . FS = Prêgestempel, die stamp, marquage per poinçonnage . TS = Tanteratrahikanzeichnung, ink jet spray marking, imprimente à jet d'encre de d'encre . El Laserkerzeichnung, Laser marking, Marquage laser . PK = Exikattenkanzeichnung, tag marking, imprimente à jet d'encre d'encre .

BENTELER 🛡

Stee!/Tube

Longueurs multiples Vielfachlängen Multiple lengths 21 Blatt: Page: Série de no. des tubes Rohr-Nr.-Gruppe Tube number group Pression d'épreuve Test pressure Prüfdruck Prüf-Nr.: Inspection No.: No. du certificat: Schmelzen-Nr. No. de coulée Heat No. 251554 41-969259/001/P Gewicht Weight 1565 Poids squ Gesamtlänge Longueur totale Length total 4334,97 Dokument-Nr.: Document No.: No. du document: feet feet ABNAHMEPRÜFZEUGNIS EN 10204-3.1 INSPECTION GERTIFICATE EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1 8.750" O.D. * 0.049" WT 20 PT - 24 FT Dimensions Dimensions Maße Stück Nombre Number 0004 181 Poste Pos. Item

Fel.: +49.5254.81-0 Fax: +49.5254.13666

Benteler Steel/Tube GmbH

33043 Paderborn

Deutschland

Postfach 13 40

Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]

Pos. 5	Schmelzen-Nr.	ပ	S	2	a.	S	CH	MO	Z	3	TAY MAETAL O	
Poste . N	Heat No.											Væmo
2000	251554	0,310	0,250	0,53	600'0	0,002	0,88	0,19	0,10	0,13	S DEC 1 6 2016 O	Oæ
dukte	Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]	duct analysis	: [%] / Analysı	s sur produit	[%]						ACCEPTED BY	⊢ ∽
Pos. S	Schmelzen-Nr. Heat No. No. de coulée	ပ	<u> </u>	NN	2	တ	C.R.	MO	Z	ਲ	9	
0004	251554	0,310	0,250	0,54	0,012	0,002	0,89	0,19	0,11	0,14		
iferge	Prüfergebnisse / Test results / Résultats des essais	ults / Résultat	s des essais									
e tubes s tubes	Die Rohre wurden zerstörungsfrei geprüft: The tubes are non destructive tested: Les tubes ont passé un essei non destructif:	törungsfre ø tested: i non destruci	i geprüft: üf:		ET-test: acc. to ASTI ET-test: ET with rota Notch depth: 0,30 m width (max. 50 mm)	with rotati h: 0,30 mm	-A 450; E ng pancak 1; notch wi	F - Test me s coils; acc dth <= no	thod: acc. ording to E	ET-test: acc. to ASTM-A 450; ET - Test method: acc. to ASTM-E 309; for imperfET-test: ET with rotating pancake coils; according to EN 10246-3; imperfections; Notch depth: 0,30 mm; notch width < = notch depth; notch length min. 2 x tran width (max. 50 mm)	ET-test; acc. to ASTM-A 450; ET - Test method: acc. to ASTM-E 309; for imperfections; ET-test: ET with rotating pancake coils; according to EN 10246-3; imperfections; Notch depth: 0,30 mm; notch width < = notch depth; notch length min. 2 x transducer width (max. 50 mm)	PASSED
			010040						010000			
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	- 101				שומנוו ווומא	, 50 filling						

Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des essais mécaniques

Vérification de la nuance: Material conformity test:

Visual Inspection:

Examen visuel:

Vérification des dimensions: Dimensions examination:

Die Probennahme erfolgte an Vielfachlängen.

The sampling was carried out on multiple lengths. L'echantillongge etait reglise aux longueurs multiples.

Benteler Steel/Tube GmbH

Postfach 13 40 33043 Paderborn Deutschland

Tel.: +49.5254.81-0 Fax: +49.5254.13666

BENTELER 🛡

Steel/Tube

4

Blatt: Page: Page: No. du certificat: Prüf-Nr.: 41-969259/001/P Dokument-Nr.: Document No.: No. du document: ABNAHMEPRÜFZEUGNIS EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1 INSPECTION CERTIFICATE EN 10204-3.1

Zugversuch längs bei RT, Vollprobe / Tensila test longitudinal at RT, Full section test specimen / Essai de traction longitudinale à .TA, Eprouvette a section complete

1								
Pos.	Proben-Nr.	Schmelzen-Nr.	Probenabmessung	SSUNG	Streckgrenze	Zugfestigkeit	Dehnung	
Item	Specimen No.	Heat No.	Specimen dimensions	nsions	Yleld strength	Tensile strength	Flongation	
Poste	No. de l'éprouv.	No. de l'éprouv. No. de coulée	Dimensions de l'éprouv.	l'éprouv.	Limite élastique	Résistance à la traction Allongement	on Allongement	
Anforderungen	ırungen				Rp 0,2 %	Rm	A2"	1. Formel
Requirements	ents		шw		KSI	KSI	%	1. Formula
Exigences	40				MIN 75	MIN 95	MIN 12.00	1. Formule
0004	000000	251554	19,03 X	1,23	125	134	16,00	
0004	000003	251554	19,03 X	1,23	123	133	17,00	
0004	000003	251554	19,03 X	1,23	123	133	18,00	
0004	000004	251554	19,03 X	1,23	124	133	17,00	
0004	900000	251554	X E0'61	1,23	124	134	17,00	

Randentkohlung / Surface decarburization / Décarburation superficielle

Pos. / Item / Poste: 0004

decarberization-outside and inside max. 0.012 in, partial decarburization outside and inside max. 0,305 mm, without total acc. to AMS-6360, partial decarburization outside max. 0.009 in, partial decarburization inside max. 0.009 in, partial decarburization; partial decarb. out. max.: 0,229 mm; partial decarb. ins. max.: 0,229 mm

Vermerk / Remark / Remarque

Pos. / Itam / Poste: 0004

52.225-1 CANNOT COMPLY, DFARS BAA: 252.225-7001 CAN COMPLY, FAR TAA: 52.225-5 CAN COMPLY, No weld repair has been carried out, Certificate remarks: The steel grade corresponds to MIL-T-6736B, AMS 6360M, material free from mercury contamination, FAR BAA:

Country of origin of the material and heat: Germany, Aircraft quality steel acc. to AMS 2301K; see appendix page 1 of 1

Pos. / Itam / Poste: 0004

Macroscopic examination: acc. to ASTM-E 381

Pos. / Item / Poste: 0004

Magnetic particle inspec.: acc. to AMS 2301K/ASTM-E 1444, on prematerial

Pos. / Item / Poste: 0004

Grain size: acc. to ASTM-E 112; Grain size and finer: 5; Grain size: Longitudinal structure micrography, On prematerial

Verkäufer(in) / Sales Personnel / Personne chargée: Mr Schwarz, Tel.: 05254 81-204311, Fax: 204391

Benteler Steel/Tube GmbH Postfach 13 40 33043 Paderborn

Tel.: +49.5254.81-0 Fax: +49.5254.13666 Deutschland

Dokument-Nr.: Document No.:

No. du document:

ABNAHMEPRÜFZEUGNIS EN 10204-3.1 INSPECTION CERTIFICATE EN 10204-3.1 CERTIFICAT DE RECEPTION EN 10204-3.1

41-969259/001/P

Prüf-Nr.: Inspection No.: No. du certificat:

BENTELER 🛡 Steel/Tube

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Blatt: Page: Page:

Abnahmebeauftragter Inspection representative

i.A. THOMAS GOLLAN / TEM

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtsgüldig. Nous attestons que les produits livrés sont conformes aux supulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature. We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature.

Paderborn Schloß Neuhaus, 28.10.2016, TEL.: 05254.81-201767 FAX: 05254.81-201752

Germany Tel.:49.5254.81-0 Fax: 49.5254.13666 Bentaler Steel/Tube GmbH Residenzstraße 1 33104 Paderborn

Dokument-Nr.

Document No.:

Inspection Certificate EN 10204.3.1 / appendix Abnahmeprüfzeugnis EN 10204-3.1 / Anhang

Certificat de réception EN 10204-3.1 / appendice

No. de document

41-969259/001/P

Blatt:

Von 1 0

BENTELER®

Steel/Tube

Page: Page:

Halbzeuguntersuchung: Stahlsorte 4130 / Semi finished product examination: grade 4130 / Produit semi-fini: nuance 4130

				•
hest Icture	тах. С 2	C2		74
Macrostructure test Essai de macrostructure (ASTM-E 381)	max R 1	R 1		Hube GmbH
Ne Esse	max. S.2	\$2		J. J. S.
Magnetpulverprüfung Magnetic particle inspection Essai à la poudre magnétique (AMS 2301K / ASTM-E 1444)	S max. 0,25	0,024		
Magnetou Magnetic part Essai à la pou (AMS 2301K /	F max. 0,34	0,020		
Harbarkeit (min. Anforderungen) Hardenability (min. requirements) Trempabilité (exigence min.) (ASTM-A 255)	J(8/16") min. 28 HRC	32		
Hardbarkeit (min Hardenability (m Trempabilité (J(5/16') min. 35 HRC	41	Inside 0,000 mm	
Korngröße Grain size Grosseur de grain (ASTM-E 112)	min. 5	6	Outside 0,010 mm	
Position Item Poste		004		,
Schmelzen-Nr. Heat No. Coulée No.		251554	Decarburization Depth	

Der Stahl ist frei von Quecksilberverunreinigungen. / The steel is free of mercury contamination. / L'acier est libre des contaminations de mercure.

Tel.: (0)5254.81-201760 Fax (0)5254.81-201752 Paderborn Schloß Neuhaus, 28.10.2016

Inspection representative Abnahmebeauftragter Contróleur

Thomas Gollan



PRECISION TUBE CO.

Control No: 2839

287 WISSAHICKON AVE. NORTH WALES PA 19454

CERTIFIED TEST REPORT

	R PURCHA			0.	CUST.		NO.			N TUBE P/N
M 4	19361230	LINE	001		4	38268			24A0375	500580006
SC	CA	5 TÜBE ROL S I		IL 601	88			IP:	TW METALS 235 TUBEWAY CAROL STREAM UNITED STATE	•
OUANTIT	Y ORD.	DES	CRIPTI	ON				O'	TY. SHIPPED	DATE SHIPPEI
### AUSS ### METAL - 6061 ALUM ### TEMPER T6 SPEC - AMS 4082P AMS-WW- ASTM-B-210-12 LENGTH - 12 FT LGTH TOL +.1250 IN00 SHAPE - ROUND FINISH - STRAIGHT EXACT I OD 3750 +.003000 ID WALL .0580 +.004000							N		4188 FT	12/21/16
				MEC	HANICA	L PRO	PERTI	ES		
SAMPLE	TENSILE YIEI SAMPLE # STRENGTH STREN (P.S.I.) (P.S.						NGATION INCH	-	ROCKWELL HARDNESS	AVERAGE GRAIN SIZE (MM.)
1		44,103		. 37,!	550	,	20			
				- D	ESTRUC	********	PPRT			TW METALS
Comments	; FAR BAA	COMPL	ES, DF					COMPI	JIES	DEC-28'18 OR T
				NON	-DESTR	UCTIV	E TES	TS		
EDDY CU	RRENT: PA	SS								
				CHI	EMICAL	COMPO				
ALLOY:	6061	HEA	C:		TRAC RAW M	EABILI'	TY #: \NDOR:	1180 PTC7	874 - Kaiser A	luminum
	SI	Fe	Cu	Mn	Mg	0.04	Zn	Tì	Al	
1	0.40		0.15		0.80	0.04			Lieur.	

We hereby certify that the material has been manufactured and tested in accordance with the requirements of the applicable specifications and descriptions set forth on Precision Tube's sales acknowledgement. During the manufacturing, testing and inspection, the product did not come into direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundry containment. Test results indicate that the material is compliant with the current revision of the RoHS Directive (2011/85/EU).

Melted and Manufactured in USA QMS Registered to ISO 9001: 2008

By: Art Onaitis
QA Manager

12/21/16

Page: 1 of 1



http://Onuma @ http://Onuma.com

KAISER ALUMINUM FABRICATED PROCUCTS, LLC 2425 STEVENS DRIVE RICHLAND, WA 99352

N. WALES, PA 19454 USA

CUSTOMER PO NUMBE	USTOMER PO NUMBER. CUSTOMER PART NUM			PRODUCT DESCRIPTION	1.	APPROV		
PTC7874	SPIR		0	5.400 LB/PC .500 LB/-0 LB 1.312 OD X .085 WALL ESRT				
KAISER ORDER NUMB	ER: LINE ITEM:	SHIP	DATE:	KAISER LOT NUMBER:	ALLOY:	TEMPER.		
320897	001	10/2	8/2016	50751-347	6061	0		
WEIGHT SHIPPED:	QUANTITY:	B/L N	UMBER:	DIAM/DAF/THKNS:	WIDTH:	LENGTH:		
10769.000 LB	1950:000	PCS 005	171			13.984 FT		
PRECISION TUE 287 WISSAHICK	BE CO			MUELLER INDUSTRIES, INC PRECISION TUBE 8285 TOURNAMENT DRIVE				

MEMPHIS, TN 38125 USA

Actual	Physical	Properties
--------	----------	------------

STE. 150

	7.0114	SAMPLE#	UTS (KSI)	YTS (KSI)	%Elong in 2	HARDNESS	CONDUCT.	BEND
REFERENCE	DASH#	SAMPLE				NA N/A	N/A	N/A
50751-347	0001	0001	18.7	5.9	27.2		N/A	N/A
50751-347	0001	0002	18.4	5.5	27.8	N/A	N/A	N/A
50751-347	0001	0003	18.3	5.6	27.1	N/A	N/A	N/A
50751-347	0001	0004	18.0	5.5	26.7	N/A		
• •	0001	0005	18.3	5.9	27.2	N/A	N/A	N/A
50751-347		0006	17.7	5.6	27.6	N/A	N/A	N/A
50751-347	0001	-	18.3	5.9	26.8	N/A	N/A	N/A
50751-347	0001	0007	18.6	5.7	25.7	N/A	N/A	N/A
50751-347	0001	8000		5.5	26.5	N/A	N/A	N/A
50751-347	0001	0009	18.2		26.0	N/A	N/A	N/A
50751-347	0001	0010	18.6	5.8		N/A	N/A	N/A
50751-347	0001	0011	18.5	5.7	28.6	117.75	277 **	

Chemical Composition (wt%), Aluminum Remainder

														,
		10-	Cu	Mn	Ma	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot	
LIMITS	Si	Fe						0.15	NA	NA	NA	0.05	.15	
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA		0.00	.0	
M1 - 1	0.40	0 00	0.15	0.00	0.80	0.04	5.05	0.00		.00	.00		.02	
F76091	.58	2.0	22	0.6	1.03	. 09	. 05	. 0.3	4 24 0		.00		.02	
E75015		. 30	.21	.05	1.01	.09	.07	.03	.00	.00	.00		8 40	

Applicable Requirements:

ASTM-B241-16 NON-STENCILED ASTM-B221-14 ASTM-B345-11 AMS-QQ-A-200/9A TYPE I UNS#A96061 Also conforms to EN 10204 3.1

TW METALS ACCEPTED BY

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILITZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

Plant Serial: 00015006

Kaiser Order Number: 320897 Line Item: 001

Page 1 of 2



http://Online.KalserAluminum.com

KAISER ALUMINUM FABRICATED PROCUCTS, LLC 2425 STEVENS DRIVE RICHLAND, WA 99352

CERTIFICATION

Kalser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

JOSEPH AMES, QUALITY MANAGER



Plant Serial: 00015006

Kaiser Order Number: 320897





http://Online.KaiserAluminum.com

KAISER ALUMINUM FABRICATED PRODUCTS, LLC 6573 W. WILLIS ROAD CHANDLER. AZ 85226

CUSTOMER PO NUMBER:		CUSTOMER	R PART NUMBER:	PRODUCT DESCRIPTION	N:	
M49360917-1		42588		Drawn Seamless	Tube/Pipe	
KAISER ORDER NUMBER: 221973	LINE ITEM:		SHIP DATE:	KAISER LOT NUMBER:	6061	TEMPER:
WEIGHT SHIPPED: 239.000 LB	QUANTITY: 86.000 P	cs	B/L NUMBER: 223667	DWW/DAF/THKNS: 3	WIDTH:	12.000 FT
SHIP TO: TW METALS INC 27 ENGLEHARD DI EXIT 8A OFF NJ TF MONROE TWP, NJ	PK	SA		SOLD TO: TW METALS INC 760 CONSTITUTION SUITE 204 EXTON, PA 1934	•	-

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00229976	0001	1	46.9	40.5	17.5	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum										NA	NA	0.00	0.00
								.02		.00	.00	.01	.02

Applicable Requirements:

Description: OD: 0.6250"; Wall: 0.1250"; Round @ AMS4082P AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS-4082P, WAS NOT OILED. This Product Complies to FAR BAA, DFARS BAA, FAR TAA COMPLIES TO DIN EN 10204 JAN 2005 No Weld Repair. Mercury Free.

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).



Plant Serial: 00023570 Kaiser Order Number: 221973





http://Online.KaiserAluminum.com

KAISER ALUMINUM FABRICATED PRODUCTS, LLC 6573 W. WILLIS ROAD CHANDLER, AZ 85226

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms &conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager

Plant Serial: 00023570 Kaiser Order Number: 221973



PRECISION TUBE CO.

Control No: 3922

287 WISSAHICKON AVE. NORTH WALES PA 19454

CERTIFIED TEST REPORT

		ASE ORDER	NO.	CUST.		NO.				TUBE P/N
		LINE 001		4	50154					50580005
S	TO 17	V METALS 75 TUBEWAY DREST PARK, NITED STATE		8			TO 1	W METAI 75 TUBI FOREST I	EWAY PARK,	GA 30298
QUANTI	TY ORD.	DESCRI	MOLT				QTY	. SHIF	PED	DATE SHIPPE
25	08 FT	LENGTH - LGTH TOL SHAPE - F FINISH -	T6 \$ 4082P -210-12 12 FT +.1250 OUND STRAIGHT 25 +.00	D000 I LENGT 0030	N		2760	FT	04/19/17	
			MEC	HANICA	L PRO	PERTI	ES			
SAMPLE	TENSILE YIELD AMPLE # STRENGTH STRENGTH (P.S.I.) (P.S.I.)					M 7 TMCHEC		ROCKW HARDN		AVERAGE GRAIN SIZE (MM.)
1		46,389	41,	988		14				
										REST REPORTS
comments	; FAR BAA	A COMPLIES,		COMPLI				ES	0	APR 27 2017 4 9347859
			NON	-DESTR	UCTIV	E TES	TS			TW METALS
EDDY CU	RRENT: P	ASS								
377.00			CHI	EMICAL						
ALLOY:	6061	HEAT:		RAW M	EABILIT	NDOR:		71 - KA	ISER A	LUMINUM
1	<u>Si</u>	FeCu	Mn	0.80	O.04	Zn	Ti	Al Rem.		
	0110	9.10			0.01			4 40111.		

We hereby certify that the material has been manufactured and tested in accordance with the requirements of the applicable specifications and descriptions set forth on Precision Tube's sales acknowledgement. During the manufacturing, testing and inspection, the product did not come into direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundry containment. Test results indicate that the material is compliant with the current revision of the RoHS Directive (2011/65/EU).

Melted and Manufactured in USA QMS Registered to ISO 9001: 2008

Art Onaitis
QA Manager

04/19/17

Page: 1 of 1





http://Online.KaiserAluminum.com

KAISER ALUMINUM FABRICATED PROCUCTS, LLC 2425 STEVENS DRIVE RICHI AND. WA 99352

CUSTOMER PO NUMB	ER:	CUSTOME	R PART NUMBER:	PRODUCT DESCRIPTION	V;				
PTC10471		SPIRIT	-371850	5.400 LB/PC .500 LB/-0 LB 1.312 OD X .085 WALL ESRT					
KAISER ORDER NUMBER: LINE ITEM:			SHIP DATE:	KAISER LOT NUMBER:	ALLOY:	TEMPER:			
321435	001		03/03/2017	50751-355	6061	0			
WEIGHT SHIPPED:			B/L NUMBER:	DIAWDAF/THKNS:	WIDTH:	LENGTH:			
5643.000 LB	43.000 LB 998.000 PCS		005283			13.984 FT			
SHIPTO: PRECISION TUBE CO 287 WISSAHICKON AVENUE N. WALES, PA. 19454 USA				SOLD TO: MUELLER INDUS PRECISION TUBE 8285 TOURNAME STE. 150 MEMPHIS, TN 38		CHE 3.717			
1	7		A (10)	reical Drawartias		CA LED			

Actual Physical Properties

REFERENCE	DA H#	SAMPLE	UTA (KSI)	YTS (KSI)	%Elong in 2	HARDNESS	CONDUCT.	BEND
50751-355	0.001	0002	146	6.1	27.3	N/A	N/A	N/A
50751-355	J001	0002	1587	5.7	25.5	N/A	N/A	N/A
50751-355	19001	0003		5.6	27.7	N/A	N/A	N/A
50751-355	0001	0004	16.9	5.1	25.7	N/A	N/A	N/A
50751-355	0001	0005	17.6	6.0	26.3	N/A	N/A	N/A
50751-355	0001	0006	17.6	5.8	27.0	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	.0
A30067	.60	.23	.22	.04	.96	.07	.03	.03	.00	.00	.00	.01	.02
F76520	.60	.30	.20	.05	. 97	.09	.07	.03	.00	.00	.00	.01	.02
F83232	.58	.28	.27	.05	.99	.06	.04	. 02	.00	.00	.01	.01	.02
F83272	.64	.28	.22	.05	1.00	.10	.08	.03	.00	.00	.00	.01	.02

Applicable Requirements:

ASTM-B241-16 NON-STENCILED ASTM-B221-14 ASTM-B345-11 AMS-QQ-A-200/8A TYPE I UNS#A96061 Also conforms to EN 10204 3.1

Miscellaneous Notes

Page 1 of 2

MANUFACTURED IN USA MELTED IN USA
MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY
OF ITS COMPOUNDS ARE UTILITZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

ACCEPTED BY

APR 2 7 2017

49367859

TW METALS

Plant Serial: 00015699

Kaiser Order Number: 321435



http://Online.KaiserAluminum.com

KAISER ALUMINUM FABRICATED PROCUCTS, LLC 2425 STEVENS DRIVE RICHLAND, WA 99352

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

JOSEPH AMES, QUALITY MANAGER

TEST REPORTS
ACCEPTED BY

APR 2 7 2017

TW METALS

Plant Serial: 00015699 Kaiser Order Number: 321435 Line Item: 001

Page 2 of 2



PRECISION TUBE CO.

287 WISSAHICKON AVE. NORTH WALES PA 19454 Control No: 1604

CERTIFIED TEST REPORT

		ASE ORDER	NO. CUS'	r. ORD. N	10.	ON TUBE P/N			
4935	4489 I	LINE 001		422327			250580005		
SOLI TO) 17 FO	METALS 5 TUBEWAY REST PARK, ITED STATES			SHIP TO	GA 30298			
YTITMAUC	ORD.	DESCRI/P	PION			OTY. SHIPPED	DATE SHIPPE		
1824	FT (),4.5. (),9.89	LENGTH - LGTH TOL SHAPE - R FINISH -	76 082P -210 12 AMS 12 FT + .1250 IN 9UND STRAIGHT EXA 25 + .0030	0000 IN CT LENGTH 0030		2004 FT	08/05/16		
			MECHANI	CAL PROP	ERTIES				
SAMPLE #	S'	PENSILE TRENGTH P.S.I.)	YIELD STRENGTH (P.S.I.)	IN 2	GATION INCHES %)	ROCKWELL	AVERAGE GRAIN SIZE (MM.)		
1		45,775	40,439		17				
						TE	ST REPORTS		
			DESTR	UCTIVE T	ESTS	A	ACCEPTED BY		
Comments: F/	AR BAA	COMPLIES, I	DFARS BAA COM				49354489 AUG 09 2016 W METALS		
			NON-DES	TRUCTIVE	TESTS	1	AA IAIT IVED		
EDDY CURRE	ENT: PA	ASS	,						
				AL COMPOS					
ALLOY: 6	061	HEAT:	RAV		OR: PT	CZ249 - Kaiser A	luminum		
-	0.40	Fe Cu 0.15	Mn Mg 0.80		Zn	TI AI Rem.			
		0.70 0.40 X EACH / 0.15 MA			0.25	0.15			
	4144	N E A COL 1 4 C 4 E 144	VECTAL			*			

We hereby certify that the material has been manufactured and tested in accordance with the requirements of the applicable specifications and descriptions set forth on Precision Tube's sales acknowledgement. During the manufacturing, testing and inspection, the product did not come into direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundry containment. Test results indicate that the material is compliant with the current revision of the RoHS Directive (2011/65/EU).

Melted and Manufactured in USA QMS Registered to ISO 9001: 2008

Art Onaitis
QA Manager

08/05/16

Page: 1 of 1





http://Online.KaiserAluminum.com

KAISER ALUMINUM FABRICATED PROCUCTS, LLC 2425 STEVENS DRIVE RICHLAND, WA 99352

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:							
PTC2249 SPIR			1850	5.400 LB/PC .500 LB/-0 LB 1.312 OD X .085 WALL ESRT							
KAISER ORDER NUMB	ER: LINE ITEM:	S	HIP DATE:	KAISER LOT NUMBER:	ALLOY:	TEMPER:					
320031	001		4/01/2016	50751-323	6061	0					
WEIGHT SHIPPED:	QUANTITY:	В	NUMBER:	DIAM/DAF/THKNS:	WIDTH:	13.984 FT					
16135.000 LB	2913.000	PCS	04991								
SHIP TO: PRECISION TUE 287 WISSAHICK N. WALES, PA 1	ON AVENU	E		MUELLER INDUS PRECISION TUBE 8285 TOURNAME STE. 150 MEMPHIS, TN 38	,	CHESION TUBE					

Actual Physical Properties

								700
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	%Elong in 2	HARDNESS	CONDUCT.	BEND
50751-323	0001	0002	17.3	5.9	26.7	NA N/A	N/A	N/A
50751-323	0001	0003	17.3	5.9	26.7	NA N/A	N/A	N/A
50751-323	0001	0004	17.3	5.4	27.2	NA N/A	N/A	N/A
50751-323	0001	0005	18.0	6.1	28.0	NA N/A	N/A	N/A
50751-323	0001	0006	17.4	5.7	26.4	NA N/A	N/A	N/A
50751-323	0001	0007	17.9	6.2	27.6	NA N/A	N/A	N/A
50751-323	0001	8000	17.5	5.8	26.6	NA N/A	N/A·	N/A
50751-323	0001	0009	17.7	5.7	28.6	NA N/A	N/A	N/A
50751-323	0001	0010	16.9	5.6	25.2	NA N/A	N/A	· N/A
50751-323	0001	0011	17.6	5.8	27.9	NA N/A	N/A	N/A
50751-323	0001	0012	17.8	6.9	27.4	NA N/A	N/A	N/A
50751-323	0001	0013	18.1	6.1	27.2	NA N/A	N/A	N/A
50751-323	0001	0014	17.4	5.7	28.3	NA N/A	N/A	N/A
50751-323	0001	0015	17.0	5.6	28.6	NA N/A	N/A	N/A
50751-323	0001	0016	18.2	5.8	26.6	NA N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot	
Maximum Minimum F75366	0.80 0.40 .58	0.00	0.15	0.00	1.20 0.80 .98	0.04	0.00	0.15 0.00 .02	NA	NA NA		0.05 0.00 .01	.0	٠.

Applicable Requirements:

ASTM-B241-12 NON-STENCILED ASTM-B221-13 ASTM-B345-11 AMS-QQ-A-200/8 97(R07) TYPE I UNS#A96061 Also conforms to EN 10204 3.1

TEST REPORTS
ACCEPTED BY
AUG 0 9 2016

Plant Serial: 00013829 Kaiser Order Number: 320031



http://Online.KaiserAluminum.com

KAISER ALUMINUM FABRICATED PROCUCTS, LLC 2425 STEVENS DRIVE RICHLAND, WA 99352

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILITZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

JOSEPH AMES, QUALITY MANAGER

TEST REPORTS ACCEPTED BY

AUG 0 9 2016

Plant Serial: 00013829

Kaiser Order Number: 320031 Line Item: 001

Page 2 of 2

MATERIAL M304 DATE: MA				PO;	BATCH NO P	036183/M13+477
MATERIAL CERT REC'D: QUANTITY RECEIVED: 30' QUANTITY REJECTED:	(Jes		THICKNESS SHEET SIZ	S ORDERED: _ S REÇEIVED: _ E ORDERED: _ E RECEIVED: _	.065 .065
DESCRIPTION	NC (Ch	eck		CC	DMMENTS	
	Y/					
SURFACE DAMAGE	Y	0				
CORRECT FINISH	(A)	N				
CORROSION	Y	0				
CORRECT GRAIN DIRECTION	0	N		·		
CORRECT MATERIAL	0	N				
CORRECT THICKNESS	(1)	N				
PHOTO REQUIRED	Y	N				
CORRECT MATERIAL	(Y)	N	ASTM	4369	~	
CORRECT REF # TO LINK CERT	Q	N	HTIFY	X 141066	, [
CORRECT MATERIAL IDENTIFICATION	V(Y)	N				
CORRECT M# ON THE MATERIAL	(Y)	N				
DOES THIS MATERIAL REQUIRE	100					
ENGINEERING SIGN OFF	Y	N				
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	R				
EXTROSION RELIGIO						
CUT SAMPLE PIEC		B 0 A	TED: AL AND	DEEODM A I	JARDNESS C	HECK
CUT SAMPLE PIEC	JE OF	- IVIA	ORD RESULT	C DEL OVA	IN: (BIVEOU U	
		KEU	HRC	HRB	DUR A	DUR D
			I UKC	11175		
TYPE OF MATERIAL						
SIZE OF TEST SAMPLE						
HARDNESS / DUROMETER RE	ADIN	iG	<u> </u>	- Et - Office	l	
QC 18 INSPECTION		ester	s located in the G		NGINEERING	s SIGNOFF (if required)
MODERATED BY PR		9		SIGNED	OFF BY:	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

DATE: MAY 1 2 2017

MATERIAL: M364	PO / BATCH NO.: Po36/83/MI374						
MATERIAL CERT REC'D: QUANTITY RECEIVED: 601 QUANTITY INSPECTED: 601	JEC.	THICKNE	SS ORDERED SS REÇEIVED: ZE ORDERED: ZE RECEIVED	10	49 45 A		
DESCRIPTION	/Ch	CR (eck		· · · · · · · · · · · · · · · · · · ·	OMMENTS		
SURFACE DAMAGE	1	0					
CORRECT FINISH	(8)	N					
CORROSION	V	N			***************************************		
CORRECT GRAIN DIRECTION		N					
CORRECT MATERIAL	8	N					
CORRECT THICKNESS	10	N					
PHOTO REQUIRED	Y	0					
CORRECT MATERIAL	· M	N	ASIND.	A269			
CORRECT REF # TO LINK CERT	100	N	H / #	YX1501	783		
ORRECT MATERIAL IDENTFICATION		N					
CORRECT M# ON THE MATERIAL	Y	1					
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(R)					
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	0					
CUT SAMPLE PIEC		344		BD550B34A		`.	
CO! SAMPLE PIEC			RD RESULT		HANDINESS (J-20N.	
		1200		HRB	DURA	DUR D	
TYPE OF MATERIAL		:		E .			
SIZE OF TEST SAMPLE		-					
	ADIN	G				•	_
	ŧ	esters	located in the	Quality Office			
HARDNESS / DUROMETER RE			located in the		NGINEERING	SIGNOFF (if require

MATERIAL: MUBO DATE: MA	PO / BATCH NO : p36/83/11374						
MATERIAL CERT REC'D: QUANTITY RECEIVED: 401 QUANTITY INSPECTED: 401	7	eS.		THICKNES	SS ORDERED: SS REÇEIVED: ZE ORDERED:	,083	
QUANT:TY REJECTED:	Č	2	-	SHEET SIZ	E RECEIVED	10/4	
	NO	ח י					
DESCRIPTION		eck i		0	STABMMC		
SURFACE DAMAGE	Y	(1)					
CORRECT FINISH	(8)	N				_	
CORROSION	Y						
CORRECT GRAIN DIRECTION	(4)	N					
CORRECT MATERIAL	0	N					
CORRECT THICKNESS	(N					
PHOTO REQUIRED	× .	(K)	4				
CORRECT MATERIAL	(Y)	Ν	AMS 6	360			
CORRECT REF # TO LINK CERT	Ø	N	H+# 3	53636			
CORRECT MATERIAL IDENTFICATION	9	N					
CORRECT M# ON THE MATERIAL	Y	N					
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Υ	Ø					
DOES THIS REQUIRE AN EXTRUSION REPORT	Υ	0				·····	
CUT SAMPLE PIEC					HARDNESS C	HECK.	
		<=U	ORD RESUL®	HRB	DURA	DURD	
TYPE OF MATERIA:			nkc		DURA	DORD	
TYPE OF MATERIAL				+			
SIZE OF TEST SAMPLE	10 1		-				
HARDNESS DUROMETER REA			located in the			1	

QC 18 INSPECTION	18	ENGINEERING SIGNOFF (if required)
INSPECTED BY: CB 9		SIGNED OFF BY
DATE: MAY 1 2 2017		DATE

MATERIAL: MY/30.	12	PO: BATCH NO:: pc 36183/M137				
MATERIAL CERT REC'D: QUANTITY RECEIVED: 341 QUANTITY INSPECTED: 6	y	THICKNESS ORDERED: .049 THICKNESS RECEIVED .047 SHEET SIZE ORDERED: .047 SHEET SIZE RECEIVED: .047				
DESCRIPTION		CR eck			COMMENTS	- ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		(N)				
SURFACE DAMAGE	(V)	N				
CORRECT FINISH	Y	8				
CORROSION	N)	N				
CORRECT GRAIN DIRECTION	(4)					
CORRECT MATERIAL	(V)	1				
CORRECT THICKNESS PHOTO REQUIRED	~	R				
CORRECT MATERIAL	8	N	Ams 63			
CORRECT REF # TO LINK CERT	0	N	4+#54	1554		
CORRECT MATERIAL IDENTIFICATION		N	11/11/0	1131		
CORRECT M# ON THE MATERIAL	(V)	1				
DOES THIS MATERIAL REQUIRE		1				
ENGINEERING SIGN OFF	Y	0				
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(1)	The second secon			
						7
CUT SAMPLE PIEC					A HARDNESS C	HECK.
		KEU	ORD RESULTS	HRB	DURA	DUR D
TYPE OF MATERIA.			7.70	HNS	1 2017	1
TYPE OF MATERIAL SIZE OF TEST SAMPLE						
HARDNESS / DUROMETER RE	ADIN	G				the free continued
			s located in the Qu			

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required);
INSPECTED BY: B	SIGNED OFF BY
DATE: MAY 1 2 2017	DATE.

MATERIAL MGOCH DATE MAY			8 PO BATCH NO 1036183/M13747			
MATERIAL CERT REC'D:	483		THICKNESS	S ORDERED:	-058 -058	
QUANTITY INSPECTED: 304	<u> </u>		SHEET SIZE	E ORDERED:	* 1/-1/-	
QUANTITY REJECTED:	O		SHEET SIZE	E RECEIVED:	NIX	
DESCRIPTION	NCR (Check Y/N)	e e	60	MMENTS		
SURFACE DAMAGE	YN)				
CORRECT FINISH	(Y) X					
CORROSION	YN					
CORRECT GRAIN DIRECTION	(Y) N					
CORRECT MATERIAL	(N					
CORRECT THICKNESS	ON					
PHOTO REQUIRED	YN					
CORRECT MATERIAL	(Y) N	ASTM B	210			
CORRECT REF # TO LINK CERT	Ø N	HT #11	83968			
CORRECT MATERIAL IDENTFICATION						
CORRECT M# ON THE MATERIAL	(Y) N					
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y C	>				
DOES THIS REQUIRE AN EXTRUSION REPORT	YO					
CUT SAMPLE PIEC	E OE MA	TERIAL AND PE	REFORM A H	ARDNESS CH	; ECK	
CO! OAMI LE ! LEO!		ORD RESULTS				
	. _ 0	HRC I	HRB	DUR A	DUR D :	
TYPE OF MATERIAL			-	1	:	
SIZE OF TEST SAMPLE			to de la constante de la const			
HARDNESS / DUROMETER REA	ADING					
HANDINEOU / DONOMETER. (L)		rs located in the Qu	ality Office			
	550501					

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: B 9	SIGNED OFF BY
DATE: MAY 1 2 2017	DATE.

MATERIAL MGOGIT DATE: MA	46+0635WiB 4122017	PO / BATCH NO.:	003C183/M137477
MATERIAL CERT REC'D: QUANTITY RECEIVED: QUANTITY INSPECTED: QUANTITY REJECTED:	yes	THICKNESS ORDERED: THICKNESS RECEIVED: SHEET SIZE ORDERED: SHEET SIZE RECEIVED	.125
DESCRIPTION	NCR (Check Y/N)	COMMENTS	
SURFACE DAMAGE CORRECT FINISH CORROSION CORRECT GRAIN DIRECTION CORRECT MATERIAL CORRECT THICKNESS PHOTO REQUIRED CORRECT MATERIAL CORRECT MATERIAL CORRECT REF # TO LINK CERT CORRECT MATERIAL IDENTFICATION CORRECT M# ON THE MATERIAL DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF DOES THIS REQUIRE AN EXTRUSION REPORT	Y N N ASTM	B310 F00 J29976	
CUT SAMPLE PIEC TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER RE	RECORD RESULT HRC ADING	HRB DURA	DUR D
	testers located in the	Quality Office	

QC 18 INSPECTION	• .	ENGINEERING SIGNOFF (if required)
INSPECTED BY:	9	SIGNED OFF BY
DATE: MAY 1	2017	DATE

MATERIAL. MOGIT DATE: MAY	РО ВАТОН NO <u>PO36/83/M/3</u> 7					
MATERIAL CERT REC D. QUANTITY RECEIVED: () O QUANTITY INSPECTED. QUANTITY REJECTED	THICKNESS ORDERED					
DESCRIPTION	NCR (Check Y/N)		©(OMMENTS		
SURFACE DAMAGE	YO					
CORRECT FINISH	0 1					
CORROSION	XO					
CORRECT GRAIN DIRECTION						
CORRECT MATERIAL	9 .					
CORRECT THICKNESS	(A)					
PHOTO REQUIRED	-	-	DYL			
CORRECT MATERIAL	(X) 1	1 1 1 1 2	9 700	38860	nu -	
CORRECT REF # TO LINK CERT		1	13697	20000	77	
ORRECT MATERIAL IDENTIFICATION	(3)					
CORRECT M# ON THE MATERIAL						
DOES THIS MATERIAL REQUIRE	V: (3				
ENGINEERING SIGN OFF	1	7				
DOES THIS REQUIRE AN EXTRUSION REPORT	y (
CUT SAMPLE PIEC	E OF M	IATERIAL ANI CORD RESU	D PREFORM A !	HARDNESS (CHECK.	
		HRC		DUR A	DUR D	
TYPE OF MATERIAL		8 6		P propose dimensi		
SIZE OF TEST SAMPLE						
HARDNESS / DUROMETER REA	ADING					
		ers located in th	- 11			

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SIGNED OF BY

+39



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO36183

Purchase Order Date 5/3/2017 PO Print Date 5/4/2017

Page Number 1 of 5

Order From:

TW METALS PO BOX 933014 ALTANTA, GA 31193-3014 VU-TWM001

DART AEROSPACE LTD Ship To:

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7 MAY 0 1 2017

CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

585 768 5600

YRC COLLECT

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms Currency Net 30 USD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments	Description/ Mfg ID	Req Date/ CD Taxable Promise Date	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Delivery Comments		/	/		
1 1	M304TR0.375W.065	304 RD Tube .375 x .0	65W 5/9/2017	20.00	\$1.86	\$37.21
	¥		Yes	f		
			5/9/2017			
	MATERIAL: AISI 304/316 SA AS PER ASTM A213 OR AMS		NG DAX	V	+	
					Line Total:	\$37.21

M304TR0.750W.049

304 RD Tube .750 x .049W

5/9/2017

60.00

Yes

\$2.10 \$126.00

5/9/2017

MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING9 AS PER ASTM A213 OR AMSE SA213 OR ASTM A269 / 9.89

Line Total:

\$126.00

3x.



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO36183

Purchase Order Date 5/3/2017 PO Print Date 5/4/2017

Page Number 2 of 5

Order From:

US

TW METALS PO BOX 933014 ALTANTA, GA 31193-3014 VU-TWM001

DART AEROSPACE LTD Ship To:

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Contact Name

Vendor Phone

585 768 5600

Buyer **Customer POID** Chantal Lavoie

Customer Tax #

10127-2607

Ship To Contact

Ship Via: Ship Acct:

Ship To Phone

YRC COLLECT

Terms Currency Net 30 USD

FOB

FCA - (Free Carrier)

M4130NT0.500W.083

4130 RD tube .500 x .083W

5/9/2017

40.00

\$4.00

\$160.00

Yes

5/9/2017

MATERIAL: AISI 4130N SEAMLESS STEEL TUBING AS PER MIL-T-6736 OR (AMS/6371/6360/6361

6362/6373/6374

9 9-89 recu 40.082

Line Total:

\$160.00

M4130NT0.750W.049

4130 RD Tube .750 x.049W

5/9/2017

20.00

\$6.00

\$120.00

23.917 H-53-10.1.

MATERIAL: AISI 4130N SEAMLESS STEEL TUBING AS PER MIL-T-6736 OR AMS 6371/6360/6361

6362/6373/6374

DAS 9

9-89

Line Total:

\$120.00



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO36183

Purchase Order Date 5/3/2017 PO Print Date 5/4/2017

Page Number 3 of 5

Order From:

TW METALS PO BOX 933014 ALTANTA, GA 31193-3014 VU-TWM001

DART AEROSPACE LTD Ship To:

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Contact Name

Vendor Phone

Ship To Contact

585 768 5600

Customer POID

Chantal Lavoie

Customer Tax #

10127-2607

Terms Currency

Buyer

Net 30 USD

FOB

FCA - (Free Carrier)

Ship To Phone Ship Via: Ship Acct:

YRC COLLECT

6061-T6 RD Tube .375

200.00

\$2.15

\$430.00 738 La

M6061T6T0.375W.058

x.058W

Yes

5/9/2017

5/9/2017

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8-QR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 ORAS ASTM B241 9

9-89

Line Total:

\$430.00

M6061T6T0.625W.125

6061-T6 RD Tube 0.625 X.125W

5/9/2017

Yes 5/9/2017

20.00

\$103.00 \$5.15

/23,60

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 QR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241 9

9-89

\$103.00



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO36183

Purchase Order Date 5/3/2017 PO Print Date 5/4/2017

Page Number 4 of 5

Order From:

TW METALS PO BOX 933014 ALTANTA, GA 31193-3014 VU-TWM001

DART AEROSPACE LTD Ship To:

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Contact Name

Vendor Phone

585 768 5600

Ship To Contact

Ship To Phone

Ship Via:

YRC COLLECT

Ship Acct:

M6061T6T0.3125W.058

ALUM TUBE .3125 x

.058w

5/9/2017

Yes

5/9/2017

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241

Buyer

Customer POID

Customer Tax #

Terms Currency

FOB

Chantal Lavoie

10127-2607 Net 30

USD

FCA - (Free Carrier)

120.00

\$300.00

Line Total:

\$300.00

M6061T6T0.750W.125

6061-T6 RD Tube .750 x

.125W

5/23/2017

20.00

f

\$9.20

\$184.00

Yes 5/23/2017

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241

Line Total:

\$184.00



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO36183

Purchase Order Date 5/3/2017 PO Print Date 5/4/2017

Page Number 5 of 5

Order From:

TW METALS PO BOX 933014

ALTANTA, GA 31193-3014

US

VU-TWM001

DART AEROSPACE LTD Ship To:

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Contact Name

Vendor Phone

585 768 5600

Ship To Contact

Ship To Phone

Ship Via: YRC COLLECT

Ship Acct:

71401-45

PROCUREMENT QUALITY CLAUSES 5/9/2017

5/9/2017

No

1.00

\$0.00

\$0.00

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retension of quality documents

Buyer

Customer POID

Customer Tax #

10127-2607 Net 30 Currency USD

FOB

Terms

FCA - (Free Carrier)

Chantal Lavoie

Line Total:

\$0.00

PO Total:

\$1,460.21

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.